R-585-8-1-34

PRELIMINARY ASSESSMENT OF **EUCLID ROAD ASPHALT SITE (KV083)** PREPARED UNDER

TDD NO. F3-9106-17 EPA DSN. VA-8755 581 **FACILITY ID NO. VAD988197059** CONTRACT NO. 68-01-7346

FOR THE

HAZARDOUS SITE CONTROL DIVISION U.S. ENVIRONMENTAL PROTECTION AGENCY

AUGUST 29, 1991

NUS CORPORATION SUPERFUND DIVISION

SUBMITTED BY

RICHARD HENNEBERRY

PROJECT MANAGER

REVIEWED BY

CARL RODEWICH

SECTION SUPERVISOR

APPROVED BY

GARTH GLENN

REGIONAL MANAGER,

FI/T 3



PRELIMINARY ASSESSMENT OF EUCLID ROAD ASPHALT SITE (KV083) PREPARED UNDER

TDD NO. F3-9106-17 EPA DSN. VA-8150 FACILITY ID NO. VAD988197059 CONTRACT NO. 68-01-7346

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REGIONAL MANAGER,

Fl/T 3

Site Name: Euclid Road Asphalt Site

TDD No.: F3-9106-17

Scope of Work

NUS FIT 3 was tasked to conduct a preliminary assessment of the subject site.

<u>Summary</u>

The site is located in Kempsville Borough, Virginia Beach, Virginia on the eastern side of Euclid Road between Holland Road and Euclid Road. It is 0.50 mile southeast of the intersection of Euclid Road and Witch Duck Road. Since 1963, the site has been operated as an asphalt-production plant. The current owner of the site, Frederick A. Haycock III, has owned the site since 1980. Mr. Haycock purchased the site from Asphalt Roads and Materials Company, of Virginia Beach, Virginia. Asphalt Roads and Materials purchased the site in 1963 from Ford Pile Foundations, Incorporated, of Virginia Beach, Virginia. The ownership history before Ford Pile Foundations is not known.

The site consists of approximately 6.5 acres of land situated between a railroad yard to the north and west and a mobile home park to the south. To the east is the property of Ford Pile Foundation, Incorporated. A chain-link fence with three access points surrounds the entire site. The main access to the site is from a driveway that enters from Euclid Road through Ford Pile Foundations property

There are six buildings on site: the office, the laboratory, the maintenance garage, a two-story asphalt-production control house the railroad car shaker control building, and the scale office. A 60-by 60-foot asphalt parking lot is north of the office.

A recycled asphalt pavement (RAP) pile is stored by the owner of the subject site on a parcel of railroad easement located adjacent to the southwestern corner of the site

The asphalt-production process of the site is located on the western part of the property. Two silos, a drum mixer, a dust-collection system, a 30,000-gallon hot mix tank, a cold feeder, and a RAP feeder are part of this process. East of this area is an area with four piles: three piles of aggregate gravel and a pile of sand. These piles are about 1 acre collectively; they are 30 feet high.

1

Site Name: Euclid Road Asphalt Site

TDD No.: F3-9106-17

Private domestic wells and two water companies serve individuals in the study area. All individuals not served by a water company are assumed to maintain private domestic wells. No information is available for private domestic wells in the study area.

The public utilities department for the city of Virginia Beach (cVB) serves a portion of the study area. cVB currently purchases water from city of Norfolk (cN). The public utilities department for cN serves a portion of the study area. cN currently obtains water from 11 surface water sources and 4 deep wells; 3 of the surface water sources are located within 4 miles of the site. None of the cN sources receive surface drainage from the site. None of the cN wells are located within four miles of the site. cN sells bulk water to the city of Chesapeake, cVB, and the United States Navy.

No surface water intakes have been identified within 15 downstream miles of the site.

The site is situated in the outer portion of the Atlantic Coastal Plain Physiographic Province in the Four Cities Area of Virginia. The Coastal Plain is underlain by a series of southeast-dipping, wedge-shaped sheets of relatively unconsolidated Cretaceous and Quaternary age sediments that have been superimposed on the eastern extension of the crystalline rocks of the Piedmont. The drainage pattern exhibited in the Four Cities Area is dendritic.

The Four Cities Area, including the Euclid Road Asphalt site, is primarily underlain by unconsolidated Quaternary age sand and gravel with varying amounts of clay and silt. Small localized areas of fill and Holocene age alluvium may be present in the study area. The Miocene age Yorktown Formation unconformably underlies younger sediments in the Four Cities Area and consists of fossiliferous sand, silt, clay, and coquina.

The site is underlain by Urban land and the Udorthent-Urban land complex. Urban land includes those areas where greater than 80 percent of the surface is covered by parking lots, buildings, and other structures. Udorthents are deep, nearly level, moderately well-drained to well-drained soils found in areas altered by excavation or covered by fill material. Soil characteristics are so variable for these land types that on-site investigation is necessary.

Site Name: <u>Euclid Road Asphalt Site</u>

TDD No.: <u>F3-9106-17</u>

Groundwater in the Coastal Plain of Virginia occurs primarily in interconnected interstitial openings in the unconsolidated sediments of the Coastal Plain. The upper 400 to 500 feet of sediments in the Four Cities Area have been subdivided into 2 main aquifers, an upper water-table aquifer and a deeper, partially confined aquifer. The upper water-table aquifer (Quaternary aquifer) includes unconsolidated Quaternary age sediments and is generally found at depths of less than 50 feet below the land surface. Wells producing from the Quaternary aquifer generally yield between 10 and 50 gallons per minute, sufficient for domestic uses. The depth to the water table ranges from less than one to eight feet below the land surface.

The deeper, partially confined aquifer (Miocene aquifer) includes unconsolidated Miocene age sediments. The Miocene aquifer is generally found at depths ranging from 50 to 150 feet below the land surface and commonly yields sufficient quantities of water for domestic use. Moderate amounts of groundwater have been yielded to public and industrial well systems in the Virginia Beach area and along the Eastern Shore. The depth to the piezometric surface is generally three to four feet lower than the depth to the top of the water table.

The direction of groundwater flow and the depth to groundwater in the water-table aquifer beneath the site are unknown. A surface water canal is located along the southern site boundary. The direction of groundwater flow in the water-table aquifer beneath the site, based upon topographic observations and the role of streams as discharge points, is estimated to be to the south toward the surface water canal. The depth to the water table beneath the site, based upon the regional characteristics of the Quaternary aquifer, is estimated to range from less than one to eight feet below the land surface.

Site surface drainage is believed to flow overland through a series of drainage ditches for approximately 800 feet before discharging into a water-filled borrow pit. The borrow pit discharges into the East Branch of the Elizabeth River. The East Branch of the Elizabeth River flows westwardly into the main stem of the Elizabeth River. The Elizabeth River flows more than 15 stream miles before discharging into the James River. The Elizabeth River and its tributaries are tidally influenced so streams may also flow eastwardly. Because of the size of the Elizabeth River, it is estimated that the stream flow will be more than 100 cfs.

No known hazardous wastes are generated at the site. No known hazardous wastes are stored or disposed on site. A RAP pile is off site on a strip of railroad easement located adjacent to the southwestern corner of the site. In 1981, a pit used to collect baghouse dust was removed. This pit was 10 by 40 feet and was lined with concrete. It is believed that the pit had been in operation since site activities began in 1963. FIT personnel did not observe any evidence of the remains of the pit.

Site Name: Euclid Road Asphalt Site

TDD No.: F3-9106-17



On July 25, 1991, NUS FIT 3 conducted a preliminary assessment of the subject site. The inspection included meeting with site representatives, conducting a site walk, and obtaining photographs.

Site Layout

The site is located on Euclid Road between Holland Road and Euclid Road, 0.50 mile southeast of the intersection of Euclid Road and Witch Duck Road (see figure 1, attachment 1). The site consists of approximately 6.5 acres of land. A chain-link fence surrounds the site. A sprinkler system connected to the fence is used to control dust. The site is bordered on the north and west by railroad tracks, on the south by a trailer park, and on the east by Ford Pile Foundations, Incorporated. The main access to the site is gained by an entrance from the property of Ford Pile Foundations. The main access road, which runs through the adjacent Ford Pile Foundations property and then to Euclid Road, is parallel to the railroad tracks to the north. The main access has a lockable gate that allows train cars carrying asphalt-production materials to enter the site on a set of train tracks that runs to various conveyor belt systems set up throughout the site. The third access gate is located on the western side of the site. A lockable gate restricts access. This gate gives access to a strip of railroad easement that has been leased to the owner of the site to store a pile of RAP that is approximately 200 feet long and 40 feet high.

A one-story office building is located in the southeastern corner of the site, adjacent to the mobile home park. A laboratory used to test asphalt purity is located adjacent to the office building in the southeastern corner of the site. The maintenance building is adjacent to the laboratory, on the southern boundary of the site. A block building is attached to the shop; it is used to store miscellaneous items. The asphalt-production-control building, which oversees the asphalt-production process, is located on the western side of the site. The railroad car shaker control building is located in the center of the site, approximately 60 feet south of the northern boundary of the site. The scale office and scale are located adjacent to the northern boundary of the site, approximately 150 feet west of the main access gate.

Site Name: <u>Euclid Road Asphalt Site</u>

TDD No.: F3-9106-17



The western area of the site contains the asphalt-production process, which consists of 2 silos, a drum mixer, a dust-collector and recycling system, a 30,000-gallon hot mix, a cold feeder, and a RAP recycle feeder. Adjacent to and east of this are three piles of size-sorted gravel aggregates and one pile of sand. These piles vary in size. At the time of the inspection, the piles covered about 1 acre; they were 30 feet high.

Overhead conveyors, underground conveyors, and above-ground railroad tracks are situated throughout the aggregate pile area.

East of the pile area are the construction vehicle parking area, dumpster (approximately 3 yards in size), and 2 water tanks that are approximately 500 gallons each. An approximately one-acre open area with a gas pump is between the construction vehicle parking area to the west and the automobile parking lot to the east.

A 15-foot utility easement and drainage ditch run the entire length of the southern boundary. The drainage ditch is connected with another ditch that separates the rest of the property boundary (excluding the eastern end) from the railroad tracks. A concrete-lined 10- by 10-foot baghouse dust pit was located where the drum mixer is now located. It was removed in 1981.

An asphalt parking lot, approximately 60 by 60 feet in size, is north of the office. A gravel/dirt road runs along the entire inside boundary of the site. Other roads lead from the gravel/dirt road into the pile area.

Site Use History

The site has been in operation as an asphalt-production facility since 1963. The asphalt-production process consists of the use of RAP, four different aggregates, small, medium, and large gravel and sand, and a hot mix that is a mixture of refined petroleum products kept at approximately 300°F. Dust from a dust-collection system is recycled back into the feeder. The hot mixer of the asphalt-production process contains proprietary modified polyamide mixture, saturated aliphatic hydrocarbons, modified polyamide, and polyamide anti-stripping agent. For a complete list of chemicals, consult the material safety data sheets (MSDSs) in attachment 4.

Site Name: Euclid Road Asphalt Site

TDD No.: <u>F3-9106-17</u>

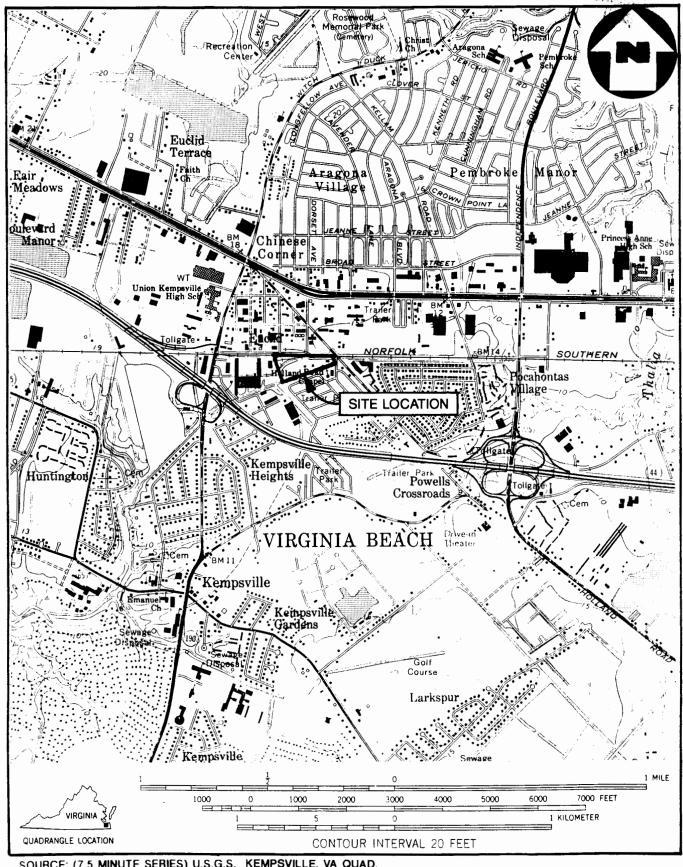
A dust pit was in operation at the site from 1963 to 1981. The dust pit was used to store nonhazardous dust from a collection system that retrieved it from the asphalt-production process. The pit was reported by on-site personnel to be 10 by 10 feet and 15 feet deep and lined with concrete.

No hazardous waste is known to be generated at the site. No hazardous waste was observed stored or disposed at the site by FIT personnel.

The wastes generated by the site are RAP and other miscellaneous nonhazardous wastes.

The site was part of Ford Pile Foundations, Incorporated before 1963 and its use is not known.

ATTACHMENT 1



SOURCE: (7.5 MINUTE SERIES) U.S.G.S. KEMPSVILLE, VA QUAD.

SITE LOCATION MAP

EUCLID ROAD ASPHALT SITE, VIRGINIA BEACH, VA

SCALE 1: 24000

FIGURE 1



ATTACHMENT 2

F3-9106-17

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POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 1 - SITE INFORMATION AND ASSESSMENT

	IFICATION
01 STATE	02 SITE NUMBER
VA	0581

PART 1 - SIT	E INFORMAT	ION AN	D ASSESSM	ENT	<u> </u>	301	
II. SITE NAME AND LOCATION							
01 SITE NAME (Legal, common, or descriptive name of site)	J	02 STREE	T. ROUTE NO., OF	SPECIFIC LOCATION IDENTIF	TER		
Euclid Road Asphalt Site			4985 Euclid Road				
03 CITY	(4 STATE	05 ZIP CODE	06 COUNTY		OFCOUNTY	
Virginia Beach		VA	23450	Virginia Beach		810	VA02
3 6° 5 0' 1 8". N 7 6° 0 9' 1							
Take Route 58 west to Witch Duck Road and and travel 0.5 mile south until 4985.	travel unt	il Euc	lid Road.	Make a left onto	Euclid	Road	
III. RESPONSIBLE PARTIES							
01 OWNER (If known)		02 STREE	(Business, mailing,	residential)			
Asphalt Roads and Materials Company, Inco	rporated	4985	Euclid Roa	d			
03 CITY	1	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBE	R		
Virginia Beach	1	VA	23450	()			
07 OPERATOR III known and different from owner!		08 STREE	T (Business, mailing,	residential)			
09 CITY		10 STATE	11 ZIP CODE	12 TELEPHONE NUMBE	A T		
				()	İ		
13 TYPE OF OWNERSHIP (Check one)	: Agency name:		_ C. STAT	TE D.COUNTY	E. MUNICI	PAL	
F. OTHER: (Soecily)			_ 🗆 G. UNK	NOWN			
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)							
□ A. RCRA 3001 DATE RECEIVED: □ B	. UNCONTROLLE	D WAST	E SITE (CERCLA 10	DATE RECEIVED:	NTH DAY Y	& C	O. NONE
IV. CHARACTERIZATION OF POTENTIAL HAZARD							
01 ON SITE INSPECTION BY (Check all III							
X YES DATE 07 25 91 A EPA					THER CON	TRACTOR	3
□ NO MONTH DAY YEAR □ E. LOCA	AL HEALTH OFFIC			(Specify)			-
CONTRACT	TOR NAME(S): _	NUS C	orporation				_
02 SITE STATUS (Check one) 03	YEARS OF OPERA	TION					
X□ A. ACTIVE □ B. INACTIVE □ C. UNKNOWN	- Br	1963		sent □ UNK	NOWN		
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR A		On all all all all all all all all all al					
None reported or observed.							
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR P	OPULATION						
None.							
V. PRIORITY ASSESSMENT							
01 PRIORITY FOR INSPECTION (Check one, if high or medium is checked, comple	te Part 2 - Waste Inform	nation and Pi	rt 3 - Description of H	azardous Conditions and Incidents)			
	C. LOW (inspect on time a		⊐X D. NOI		nt disposition fo	orm)	
VI. INFORMATION AVAILABLE FROM							
01 CONTACT 02	OF (Agency/Organize	tion)			031	ELEPHON	E NUMBER
James McCreary	U.S. EPA				(2	15) 59	97-1105
	AGENCY	06 ORG	ANIZATION	07 TELEPHONE NUME	3ER 08	DATE	0 01
Richard Henneberry	NUS	FI	T 3	(215) 687-95	510 _	08 30	U 91



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POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

VA 0581

	TATES, QUANTITIES, AN	D CHARACTERI	STICS				
01 PHYSICAL STATES (Check all thet apply) O2 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent) DB POWDER, FINES F LIQUID TONS		O3 WASTE CHARACTERISTICS (Check all that apply) A TOXIC - E SOLUBLE - HIGHLY VOLATILE N/A B CORROSIVE - F INFECTIOUS - J EXPLOSIVE - C RADIOACTIVE - G FLAMMABLE - K REACTIVE - D PERSISTENT - H IGNITABLE - L INCOMPATIBLE					
B POWDER	R, FINES _ F. LIQUID G. GAS	TONS _	11/7	C RADIOA	CTIVE G FLAMM	MABLE K REACTIV	/E
		CUBIC YARDS _		D PERSIST	TENT . H IGNITA	BLE . L INCOMP _ M NOT AP	ATIBLE
X D OTHER NO. OF DRUMS NO. OF DRUMS					_ // 1401 //	LIGHOLL	
III. WASTE T	YPE						
CATEGORY	SUBSTANCE N	AME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS		
SLU	SLUDGE				*No hazardous	wastes are kno	wn to
OLW	OILY WASTE				have been st	ored or deposit	ed at
SOL	SOLVENTS				the site.		
PSD	PESTICIDES						
осс	OTHER ORGANIC CH	IEMICALS					
IOC	INORGANIC CHEMIC	ALS					
ACD	ACIDS						
BAS	BASES						
MES	HEAVY METALS						
IV. HAZARDO	OUS SUBSTANCES (See A)	opendix for most frequen	tly cited CAS Numbers;				
01 CATEGORY	02 SUBSTANCE N	AME	03 CAS NUMBER	04 STORAGE/DISE	POSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
				*No hazardous	wastes are		
			,	known to hav	e been stored		
					at the site.		
			 				
							
							L
V. FEEDSTO	CKS (See Appendix for CAS Numb	ers)					
CATEGORY	01 FEEDSTOC	K NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTO	OCK NAME	02 CAS NUMBER
FDS	petroleum dis	tillates		FDS			
FDS				FDS			
FDS				FDS			
FDS				FDS			
VI. SOURCE	S OF INFORMATION (Cre	specific references, e.g.	, state files, sample analysis,	reports)			
NUS FIT 3	. Preliminary asso	essment; sit	e visit. TDD	No. F3-9106-17	, July 25, 199	91.	

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POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

VA 0581

PART 3 - DESCRIPTION C	OF HAZARDOUS CONDITIONS AND INCI	DENTS	
II. HAZARDOUS CONDITIONS AND INCIDENTS			.,
01 _ A GROUNDWATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED	02 OBSERVED (DATE 04 NARRATIVE DESCRIPTION	_ ; POTENTIAL	ALLEGED
None reported or observed.			
01 E B. SURFACE WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED	02 COBSERVED (DATE	_ POTENTIAL	T ALLEGED
None reported or observed.			
01 C. CONTAMINATION OF AIR 03 POPULATION POTENTIALLY AFFECTED	02 C OBSERVED (DATE	_)POTENTIAL	ALLEGED
None reported or observed.			
01 _ D. FIRE/EXPLOSIVE CONDITIONS 03 POPULATION POTENTIALLY AFFECTED	02 TOBSERVED (DATE04 NARRATIVE DESCRIPTION	_) POTENTIAL	ALLEGED
None reported or observed.			
01 ☐ E. DIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED	02 COBSERVED (DATE. 04 NARRATIVE DESCRIPTION	_) _ POTENTIAL	ALLEGED
None reported or observed.			
01 T. F. CONTAMINATION OF SOIL 03 AREA POTENTIALLY AFFECTED: Acres	02 ☐ OBSERVED (DATE. 04 NARRATIVE DESCRIPTION)	C ALLEGED
None reported or observed.			
01 G. DRINKING WATER CONTAMINATION 03 POPULATION POTENTIALLY AFFECTED:	02 GBSERVED (DATE	_) _ POTENTIAL	_ ALLEGED
None reported or observed.			
01 H. WORKER EXPOSURE/INJURY 03 WORKERS POTENTIALLY AFFECTED:	02 C OBSERVED (DATE:04 NARRATIVE DESCRIPTION) ☐ POTENTIAL	□ ALLEGED
None reported or observed.			
01 🗆 I. POPULATION EXPOSURE/INJURY 03 POPULATION POTENTIALLY AFFECTED:	02 GBSERVED (DATE: 04 NARRATIVE DESCRIPTION	_) ☐ POTENTIAL	□ ALLEGED
None reported or observed.			

POTENTIAL HAZARDOUS WASTE SITE

1.	IDENT	IFICATION
01	STATE	02 SITE NUMBER

	PRELIMINARY ASSESSMENT ION OF HAZARDOUS CONDITIONS AND INCIDENTS	S VA STATE 102 S	0581		
II. HAZARDOUS CONDITIONS AND INCIDENTS	Continued				
01 □ J. DAMAGE TO FLORA 04 NARRATIVE DESCRIPTION	02 G OBSERVED (DATE:)	☐ POTENTIAL	_ ALLEGED		
N/A					
01 © K. DAMAGE TO FAUNA 04 NARRATIVE DESCRIPTION (Include name(s) of species)	02 OBSERVED (DATE:)	☐ POTENTIAL	_ ALLEGED		
N/A					
01 ☐ L. CONTAMINATION OF FOOD CHAIN	02 □ OBSERVED (DATE:)	POTENTIAL	_ ALLEGED		
04 NARRATIVE DESCRIPTION					
j N/A					
01 M. UNSTABLE CONTAINMENT OF WASTES (Solfs/runofi/stanging liquids/leaking drums)	02 G OBSERVED (DATE)	POTENTIAL	□ ALLEGED		
03 POPULATION POTENTIALLY AFFECTED:	04 NARRATIVE DESCRIPTION				
N/A					
01 □ N. DAMAGE TO OFFSITE PROPERTY 04 NARRATIVE DESCRIPTION	02 G OBSERVED (DATE:)	_ POTENTIAL	ALLEGED		
N/A					
01 D. CONTAMINATION OF SEWERS, STORM DRA 04 NARRATIVE DESCRIPTION	AINS, WWTPs 02 OBSERVED (DATE:)	☐ POTENTIAL	C ALLEGED		
N/A					
01 □ P. ILLEGAL/UNAUTHORIZED DUMPING 04 NARRATIVE DESCRIPTION	02 G OBSERVED (DATE)	_ POTENTIAL	_ ALLEGED		
N/A					
05 DESCRIPTION OF ANY OTHER KNOWN, POTENTI	IAL. OR ALLEGED HAZARDS				
N/A					
III. TOTAL POPULATION POTENTIALLY AFFECT	red: N/A				
IV. COMMENTS					
N/A					
V. SOURCES OF INFORMATION (Cite specific references, e.g., state lives, sample analysis, reports)					
NUS FIT 3. Preliminary assessmen	t; site visit. TDD No. F3-9106-17, July 2	5, 1991.			



ATTACHMENT 3

ATTACHMENT 4

ScanRoad

Nobel Industries Sweden

KLING® BETA 2600

HEAT STABLE ANTISTRIPPING AGENT FOR HOT-MIXED ASPHALT

Application

KLING® BETA-2600 is a heat stable, liquid anti-stripping agent specially designed to prevent stripping of the asphalt from the aggregate used in hot-mixed systems. It may be used with a wide variety of asphalt cements and aggregates.

KLING® BETA-2600 can be incorporated into the asphalt by mechanical agitation, pump circulation of the storage tank, or by injection into the asphalt loading line followed by recirculation through the truck bypass system to allow for proper mixing.

Dosage

Normally 0.25–0.50% by weight of asphalt is recommended.

Heat Stability

Heat stable, meets the stability test requirements of state highway testing laboratories.

Physical Properties

Visual appearance at 77°F	Dark Brown
• •	Liquid
Flash Point, °F (Pensky-	above 200
Martens closed cup)	
Density at 77°F,lbs/gal	7.95 ± 0.1
Viscosity, 77°F, SFS	50 - 900
Viscosity, 100°F, SFS	25 - 75

Note: Above values are average and subject to variations.

Storage

Storage temperatures should not exceed 150°F.

Package

KLING® BETA-2600 is available in bulk or in 55 gallon tight-head drums, 400 lbs net.

Safety

Amine products should be handled with care. In order to avoid injuries, protective gloves and safety goggles should be used. For further information, see our Material Safety Data Sheet.

MATERIAL SAFETY DATA SHEET KLING® BETA 2600

Proprietary Modified Polyamine Mixture

SCANROAD, INC.

4914 Fort Avenue 76710

P.O. Box 7677

Waco, Texas 76714-7677

PHONE:

INQUIRY (817) 772-7677

EMERGENCY (800) 424-9300

Health

0=Least

0

1=Slight

Flammability

2=Moderate

3=High

Reactivity

0 4=Extreme

US D.O.T. EMERGENCY RESPONSE GUIDEBOOK REFERENCE — 60

IDENTITY: (As used on label and list)

TRADE NAME:

CHEMICAL NAME:

FORMULA:

MOLECULAR WEIGHT:

CAS #:

DOT HAZARD CLASSIFICATION:

DOT HAZARD LABEL:

KLING® BETA 2600

Proprietary Modified Polyamine Mixture

N/A

Mixture

Alkaline (Corrosive) Liquid, NOS, NA1719

Corrosive Material

SECTION I

MANUFACTURER'S NAME:

ADDRESS:

SCANROAD, INC.

4914 Fort Avenue 76710

P.O. BOX 7677

(800) 424-9300

WACO, TEXAS 76714-7677

EMERGENCY PHONE NUMBER:

PHONE NUMBER FOR INFORMATION:

DATE REVISED:

(817) 772-7677

05/06/91

NAME OF PREPARER:

Cody Yarborough

SECTION II HAZARDOUS INGREDIENTS/INFORMATION

HAZARDOUS COMPONENTS

Proprietary Modified Polyamine Mixture

CAS#: Mixture

OSHA ! ACGIH ! OTHER

Title 29 CFR Section 1910.1200

! NOT ESTAB ! NOT ESTAB!

Note: Does not contain any SARA Title III "List of Lists" ingredients. See Section IX for SARA reporting requirements.

SECTION III — PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: >150°C

SPECIFIC GRAVITY (H2O=1): Typ., 0.95 @ 25°C

VAPOR PRESSURE (mm Hg @ 20°C): <1.0 MELTING POINT: Varies VAPOR DENSITY (Air=1): >1.0

EVAPORATION RATE (Butyl Acetate=1): <1.0

SOLUBILITY IN WATER (% by weight): N/A

APPEARANCE AND ODOR: Dark brown liquid with ammoniacal odor.

pH: Alkaline to litmus.

MATERIAL SAFETY DATA SHEET KLING® BETA 2600

Proprietary Modified Polyamine Mixture

SECTION IV — FIRE AND EXPLOSION HAZARD DATA FLASH POINT (method used): >121°C Closed Cup FLAMMABLE LIMITS: LEL N/A UEL N/A AUTO IGNITION TEMPERATURE: N/A **EXTINGUISHING MEDIA:** Water spray, foam or CO₂. SPECIAL FIRE FIGHTING PROCEDURES: Wear NIOSH/MSHA approved self-contained breathing apparatus and protective clothing. Cool containers exposed to flames with water spray. Solid stream of water may cause splattering and spread flames. UNUSUAL FIRE AND EXPLOSION HAZARDS: N/A SECTION V — REACTIVITY DATA STABILITY: Stable. CONDITIONS TO AVOID: Temperatures near or above flash point. INCOMPATIBILITY (materials to avoid): Strong oxidizers and materials which could react with amines. HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Thermal decomposition produces CO, CO₂ NO_x, and other gases. HAZARDOUS PÕLYMERIŽATION: Will not occur. ************************** SECTION VI — HEALTH HAZARD DATA **ROUTE(S) OF ENTRY:** INHALATION? May be harmful if inhaled. SKIN? Can cause severe irritation or burns. May cause allergic skin reaction. **INGESTION?** Harmful if swallowed. EYES? Causes severe burns. May cause blindness. **HEALTH HAZARDS** (acute and chronic): JARCINOGENICITY: NTP? Ingredients not on list. LARC MONOGRAPHS? Ingredients not on list. OSHA REGULATED? Ingredients not on list. SIGNS AND SYMPTOMS OF EXPOSURE: **INHALATION** — Repeated and prolonged exposure may result in respiratory irritation, asthmatic symptoms, sensitization, pulmonary edema, nausea and vomiting. Extreme cases of exposure may result in muscle weakness and convulsions. INGESTION — May cause irritation of the mouth and throat, abdominal pain, vomiting and diarrhea.

absorption of harmful amounts.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Skin contact may aggravate existing dermatitis. Vapor may aggravate existing asthma and other pulmonary diseases.

SKIN CONTACT — Contact can cause burns with allergenic reactions. Long term exposure may result in

MATERIAL SAFETY DATA SHEET KLING® BETA 2600

Proprietary Modified Polyamine Mixture

EMERGENCY AND FIRST AID PROCEDURES:

INGESTION — Administer large quantities of water or milk. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

INHALATION — Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

EYE CONTACT — Immediately flush with plenty of water for at least 30 minutes. Immediately call physician.

SKIN CONTACT — Immediately flush with plenty of water while removing contaminated clothing and shoes. Continue to flush with water for at least 30 minutes. Finish by thoroughly washing with soap and water. Call a physician. Wash clothing before reuse. Destroy shoes.

SECTION VII -- PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dike spill and absorb in sand, earth, or vermiculite. Collect into closed containers for disposal according to Federal, State, and Local regulations. Do not sewer.

WASTE DISPOSAL METHOD: Dispose of as hazardous waste (40CFR 261.33) in authorized waste disposal facility in accordance with Federal, State and Local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in cool, dry area away from oxidizers and strong acids. Handle using good industrial hygiene and safety practices. Avoid contact with skin and eyes. Remove closures carefully to release possible internal pressure.

OTHER PRECAUTIONS: N/A

SECTION VIII — CONTROL MEASURES

RESPIRATORY PROTECTION (specify type): Use mask equipped with organic filters.

VENTILATION: Local exhaust recommended.

ROTECTIVE GLOVES: Rubber.

EYE PROTECTION: Chemical splash-proof goggles or full face shield.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Boots, apron, eye wash station and safety shower accessible to workers.

WORK/HYGIENIC PRACTICES: Do not use unless eye bath and safety shower are available in the work area. Wash hands before eating, drinking, smoking or using toilet. Use good housekeeping practices.

MATERIAL SAFETY DATA SHEET KLING® BETA 2600

Proprietary Modified Polyamine Mixture



SECTION IX — ADDITIONAL INFORMATION

ENVIRONMENTAL

BIODEGRADABILITY: Not known.

WASTE DISPOSAL METHODS: Dispose of as hazardous waste in an authorized hazardous waste

facility in accordance with local, state and federal regulations.

ADDITIONAL INFORMATION

EMPTY CONTAINER HANDLING: Dispose of as hazardous waste (40CFR 261.33) in authorized waste disposal facility in accordance with Federal, State and Local regulations. Emptied container retains product residue and vapors. Observe all precautions even after container is emptied. Do not cut, drill, grind, or weld on or near container.

SARA TITLE III REPORTING REQUIREMENTS

SECTION 302 — EXTREMELY HAZARDOUS SUBSTANCES

SECTION 304 — HAZARDOUS \RELEASES

SECTION 302 — COMMUNITY RIGHT TO KNOW (R-T-K)

SECTION 302 — R-T-K INVENTORY DATA

SECTION 302 — EMISSIONS AND RELEASE

CERCLA

Reporting not required. Reporting not required. Reporting required. Reporting required. Reporting not required. Same as Section 304

REFERENCES

TOXIC SUBSTANCE CONTROL ACT LIST (TSCA) - Not listed.

PERMISSIBLE EXPOSURE REFERENCES: Registry of toxic effects of chemical substances Title 29
Code of Federal Regulations. International Agency for Research on Cancer (IARC)
monographs.

REGULATORY STANDARDS:

DOT Title 49 CRF. Sections 173.240, 173.245.

OSHA Title 29 CFR Section 1910.1200

NIOSH Title 40 CFR Section 261.33

SHIPPING DESCRIPTION: Alkaline (Corrosive) liquid, NOS NA1719.

LABEL REQUIRED: Corrosive Material.

The information contained herein is believed to be accurate. However, it is provided solely for the customer's consideration, investigation and verification. The product described herein can, if not used properly, cause damage to property and injury or death to persons. ScanRoad, Inc. hereby specifically disclaims any and all warranties, express or implied, regarding the accuracy and completeness of such information, and makes no representations with respect thereto.

~~~~	TI DATA DUEELL	H
Sargent - Welch Scientific Company 7300 N. Linder Avenue Skokie, Illinois 60077	This form meets and exceeds the OSHA Hazard Communication Standard 29 CFR 1910.1200, Form OMB No. 1218-0072	
Section I	and a series of the series of	٠
Chemical Name Refined Petroleum Oil (Paraffinic Hydrocarbons), Severely Solvent Refined (Class 3)		ition
Synonyms Sargent-Welch DuoSeal TM High Vacuum Pump Oil Formula NA (Product is refined naturally Occurring mixture)	Telephone Numbers: General Information Sargent - Welch 312-677-060	00
Date Issued 5-1-89	Emergency 24 Hour CHEMTREC 800-424-9300	
Section II - Hazardous Ingredients /Identi	ty Information	in the second
Exposure I Hazardous Components OSHA PEL	Limits In Air Other Limits ACGIH TLV Recommended	% (Optional)
Product is a complex, natur- 5 mg/m ³ ally occurring mixture of saturated aliphatic hydro- carbons, all approximately (Limits are equally hazardous.	10 mg/m³ e for mineral oil mists)	
Section III - Physical / Chemical Character	ristics	
Boiling Point	Specific Gravity (H ₂ O = 1)	0.88
Vapor Pressure (mm Hg.) @ 25° C - < 4x10 ⁻⁵	Melting Point	NA NA
Vapor Density (Air = 1)	Evaporation Rate (Butyl Acetate = 1)	<1
Solubility in Water Negligible		
Appearance and Odor Viscous, amber liquid wit		
Section IV - Fire and Explosion Hazard D	ata	1000 M
Flash Point (Method Used) Flammable Lim 2320 C (COC); 2280 C (PM) NA		Sans with
Extinguishing Media Carbon dioxide, dry chemical, foam or water	the contract of the contract o	· Allie (Sign
Special Fire Fighting Procedures	Territorian sella de l'international de l'internati	and said
Unusual Fire and Explosion Hazards	The state of the s	
Section V - Reactivity Data	se frothing.	
Stability Unstable Conditions To Avoid	· · · · · · · · · · · · · · · · · · ·	;
The Americal Control of the Americal Control of the	t aprea domingo abita britis (	ლიქი (proj 2 <u>)</u>
Hazardous Decomposition By-products Thermal decomposition	mposition evolves carbon monoxide ar	nd carbon
Hazardous May Occur Conditions To Polymerization Will Not Occur X	Avoid DNA	در.
DNA = Does not apply NA= Not available	4	<b>_</b>

		'	معتصره والمعروب المسامره والا	· · · · · · · · · · · · · · · · · · ·	William.	Page 2
Section VI - Health I	Hazard Data					
Route(s) of Entry:	Inhalation? Y	'es	Skin? Yes		stion? == Yes	
CANCER AGENT XXX Symptoms of Over Exposure that such oils are car	Chronic) Inhalation ion. Mists above Mild, readily regyles or nauscrulitis. Inhalation NTP:  NO: This product's is a sever coinggenic to expression.	on of vap e TLV may reversible gastroi sea. Chro ion may c? Ingredients rely solv	cause chemic e irritation ntestinal irr nic exposure: ause bronchit ARC Monograph are not found in ent refined olanimals (50	al pneumonition eye and skitation, diar contact may is or pulmonas?  OSF	cin. Low toxicrhea, vomiticause drying ary irritation IA Regulated? There is no ister 51853	- 4 hour city on i ing, de- g, crackir on. 
lealth Hazards, above.	. Ingestion of a	large qu	antity - betw	een a pint ar	nd a quart ca	an be fata
Medical Conditions Aggravated By Exposure	Dermal allergies	s. bronch	itis.		1	
FIRST AID and EMER	-		•	1		
Eye Contact: Sustained of	flushing with fro	ee flow o	f water. Seek	medical att	ention in ca	se of com-
Skin Contact: Wash thoro	oughly with soap	and wate	er. Launder co	ntaminated c	lothing befo	re wearing
again. Inhalation: Remove to fi	resh air. Provid	e respira	itory suppot i	n case of di	fficulty in	 breathing
Seek medical aid. Ingestion: Immediately :						
Section VII - Precau	tions For Safe I	Handling	g And Use			
Steps To Be Taken In Case N nition. Provide adequ ents. Wall off larger	ate ventilation.	Soak up	small spills	with rags, s	and or speci	al absorb
Waste Disposal Method regulations.	In accordance wi	th all a	oplicable fede	eral, state a	nd local env	
reguracions.		<i>:</i> .				-
ecautions To Be Taken In immediately. Do not p Wash contaminated ski	our or handle in	the pre	sence of an o	oen flame or	hot electric	al elemen
Section VIII - Contr	ol Measures	.: : ·		egi ai wa		
Respiratory Protection (Spe		ally req	uired. If hig	n vapor or mi	st concentra	itions are

Respiratory Protection (Specify Type) Not usually required. If high vapor or mist concentrations are expected, use respirator approved for organic vapors and mists.

Ventilation Local Exhaust When work area exceeds Special

TLV

Mechanical (General)

Other

Protective Gloves Oil impervious gloves Eye Protection Safety goggles, or chemical splash goggles for frequent or prolonged contact.

if splashing is anticipated.

Other Protective Clothing or Equipment Wear body-covering work clothes to avoid prolonged or repeated contact.

Work/Hygienic Practices Wash skin contact areas thoroughly with soap and water. Launder contamimated clothing before wearing again.

"All statements, information, and data provided in this Material Safety Data Sheet are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied on our part. Users should make their own investigations to determine the suitability of the information or products for their particular purpose.

#### MATERIAL SAFETY DATA SHEET



#### Manufacturer

ARR-MAZ PRODUCTS, INC. 621 Snively Avenue Winter Haven, Fl 33880

## Emergency Phone Number

813-293-7884

-----PRODUCT INFORMATION------

AD-here HP Plus Trade Name:

Z-708

Chemical Family: Mixture

HMIS RATING:

Composition: Modified polyamine

2 Moderate Health Hazard 1 Slight Flammability Hazard Reactivity Hazard O Minimal

Acute Health SARA TITLE III:

D.O.T. Shipping Corrosive Liquid, Poison, N.O.S.

(Dihexylamino, 6,6'-Diamino) Classification:

UN 2922

-----PHYSICAL DATA--------------

> 300 °F Boiling Point (°F):

<u>Solubility in Water:</u> Slight

Vapor Pressure (mmHq at 25°C): N/D

Vapor Density (Air = 1): > 1

Dark brown liquid Appearance:

Odor: Ammoniacal

Specific Gravity (at 77°F): 0.860 to 1.060

-----FIRE EXPLOSION----------

> 275°F Flash Point (PM Closed Cup °F):

CO2, foam, or dry chemical Extinguishing Media:

Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing equipment

and protective clothing.

## -----HEALTH HAZARD INFORMATION-----

#### EYE

Causes severe irritation or burns, may cause blindness. Effect:

First Aid: Immediately flush with plenty of water for at least 15

minutes. Contact a physician immediately.

Chemical resistant splash proof goggles or a full face Protection:

shield.

## SKIN

Local irritation or sensitivity can develop from repeated Effect:

contact.

Immediately flush with water for 15 minutes followed by First Aid:

soap and water. If a rash develops contact a physician.

Exercise normal safety practices. Remove contaminated Protection:

clothing immediately, wash before reuse.

## INHALATION

Irritation of the respiratory system may occur. Effect:

Remove to fresh air. If breathing is difficult give First Aid:

oxygen and contact a physician. If not breathing, give mouth to mouth artificial respiration. Immediately call

a physician.

Use where local exhaust or other adequate ventilation is Protection:

present.

#### INGESTION

Harmful when swallowed. May cause burns to the digestive Effect:

system.

First Aid: Contact a physician or a poison control center

immediately.

------REACTIVITY DATA---------

Stability:

Stable

<u> Hazardous Polymerization:</u> Will not occur.

Strong oxidizers and materials that will Incompatibilities:

react with amine compounds.

Hazardous Decomposition Products: CO, CO2, NOx, and other thermal

decomposition by-products.

SPILL,	LEAK.	AND	DISPOSAL	PROCEDURES
SPILL,	LEAK,	AND	DISPUSAL	PROCEDORES

Spills and Leaks: Isolate then absorb with earth,

vermiculite, or other inert absorbent material. Collect in drums or other

containers.

Waste Disposal: Incinerate or bury in certified landfill

according to federal, state and local

regulations.

Hazardous Waste Class: D.002 (Characteristic waste)

------SPECIAL PROTECTION INFORMATION------

Respiratory Protection: Use organic filter respirator.

Protective Gloves: Impervious rubber or plastic.

Eye Protection: Chemical resistant splash proof goggles or

a full face shield.

Other Protective Equipment: Eye wash and safety shower should be easily

accessible.

----- STORAGE AND SPECIAL PRECAUTIONS-----

Storage Precautions: Avoid storage temperatures near or above

flash point. Use standard handling and

safety practices.

Other Precautions: Avoid frequent or prolonged skin contact.



## ------ OISCLAIMER OF EXPRESSED OR IMPLIED WARRANTS-------

This material safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe that information to be correct but can not guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied.

Date of MSDS: 04/05/91

Issued by: Comm Lal

Date of Previous MSDS: 01/21/91

## MATERIAL SAFETY DATA

## PAVE BOND® PS Asphalt Additive

Morton International Industrial Chemicals and Additives 2000 West Street Cincinnati, OH 45215

CHEMTREC 1-800-424-9300 General Information 513-733-2100 MSDS Reference No. 5324

Rev. Date 02/15/91 Rev. No. 7

## I. PRODUCT IDENTIFICATION

Product name:

PAVE BOND@ PS Asphalt Additive

Chemical name:

Mixture

Chemical family: Aliphatic polyamines

## II. HAZARDOUS CONSTITUENTS

CAS No.	Chemical	Hazard Data
*	Aliphatic polyamines	Corrosive, highly toxic
*	Oxygenate	See sec. V and sec. IX
	* Confidential; product composition is a trade secret.	

DOT Class. CORROSIVE LIQUID and POISONOUS. UN2922

#### III. PHYSICAL DATA

Boiling point: 170-380+°C Melting point:

Not applicable

Vapor pressure:

<1 mm @ 25°C

Vapor density (air=1):

> 3

H₂O solubility: Viscosity:

Miscible 1030cs @ 25°C % volatiles by wt.: Specific gravity:

8 @ 110°C 0.99 @ 25°C

Appear. & odor: Black viscous liquid with ammoniacal odor

#### IV. FIRE AND EXPLOSION HAZARD DATA

Flash point (method used): 220°F

Fire fighting procedures:

(Setaflash - ASTM D3278-78)

Flammable limits in air :

Unknown

Extinguishing media:

Dry chemical; carbon dioxide; water spray; foam Self-contained breathing apparatus with full

facepiece in positive pressure mode and

impervious suit

Fire & explosion hazards:

Decomposes at >300°C/572°F or on burning. May produce irritating/toxic vapors including

caustic amines, hydrogen cyanide & oxides of

carbon & nitrogen



PAVE BOND® PS Asphalt Additive Page 2
MSDS Reference No. 5324
02/15/91

Morton International Industrial Chemicals and Additives 513-733-2100

#### V. HEALTH HAZARD INFORMATION

#### Health Hazard Data

TLV: Ethylene glycol 50 ppm, 125 mg/m³, vapor, ceiling

PEL: Ethylene glycol 50 ppm, 125 mg/m³, ceiling

LD50: Dermal, >150 mg/kg <250, (rabbit); toxic

Oral, >500 mg/kg (rat)

LC50: Not determined

Skin Irritation Index (rabbit): Not determined; corrosive Eye Irritation Index (rabbit): Not determined; corrosive

#### Effects of Overexposure

Inhalation: Vapors or fumes may irritate respiratory tract.

Skin contact: Irritation, rash and possibly severe skin burns and

blistering can result.

Skin absorption in sufficient amounts may produce

systemic toxicity effects.

Eye contact: Will cause severe irritation and possible permanent

eve injury.

Ingestion: Will cause severe irritation, burns, blistering and

possible convulsions.

Chronic: Recent data indicates the oxygenate in this product

is not genotoxic/mutagenic. A weak positive

increased incidence of chromosomal aberrations has

been previously reported. See sec. IX.

Ethylene glycol may be present at <0.4%. Ethylene glycol has been shown to cause birth defects in

laboratory animals.

Products similar to PAVE BOND PS have been

classified as skin sensitizers based on recent tests

on guinea pigs.

## Emergency First Aid Procedures

Eyes: Flush with water for 15 minutes. Obtain immediate

medical attention.

Skin: Immediately flush with water for 15 minutes while

removing contaminated clothing and shoes. Obtain

medical attention.

Inhalation: Remove to fresh air. Obtain medical attention.

Ingestion: Do not induce vomiting. Obtain medical attention

immediately.

PAVE BOND® PS Asphalt Additive Page 3
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Morton International Industrial Chemicals and Additives 513-733-2100

### VI. REACTIVITY DATA

Stability of compound:

Stable

Chemical incompatibility:

Avoid strong acids and oxidizing agents.

Decomposition products:

Ammonia, amines, oxides of carbon and nitrogen, and hydrogen cyanide may result at >300°C/572°F

or if ignited.

Hazardous polymerization:

Will not occur.

## VII. SPILL OR LEAK PROCEDURES

If material is spilled: Contain spilled material with sand, aggregate

fines, or other absorbant. Use detergent with water for easier final cleanup. Avoid vapor inhalation or skin contact. Cleanup personnel

should wear protective equipment.

Waste disposal method: Place absorbed material in an appropriate, closed

container for disposal of in accordance with local, state and federal regulations. Waste containing this material may be hazardous due to

high pH.*

* Refer to 40 CFR 261.22.

#### VIII. SPECIAL PROTECTION INFORMATION

Ventilation requirements: Use adequate ventilation to prevent vapor

accumulation.

Equipment

Respiratory: If handled in a confined area, wear a NIOSH-approved

amine and ammonia respiratory cartridge or NIOSH-approved

air-supplied breathing equipment.

Eye:

Chemical goggles and face shield

Gloves:

Impervious gloves

Other:

Impervious suit or impervious apron

PAVE BOND® PS Asphalt Additive Page 4
MSDS Reference No. 5324
02/15/91

Morton International Industrial Chemicals and Additives 513-733-2100

#### IX. SPECIAL PRECAUTIONS

Do not take internally.

Store in cool, dry and well ventilated area.

For industrial use only

Wash thoroughly after handling.

Remove contaminated clothing immediately and launder before reuse.

Contaminated shoes and gloves should be destroyed.

The oxygenate component in this product did not produce mutagenic activity in the Ames test or a forward gene mutation assay in Chinese Hamster Ovary cells. However, a weak positive increased incidence of chromosomal aberrations in Chinese Hamster Ovary cells was detected. The clastogenic potential of the material was confirmed in vivo by a positive micronucleus assay. These weakly positive genotoxic responses make it difficult to assess the relevance of these findings to human health, however, more recent and relevant data, a bone marrow cytogenetics study in rats, did not produce any evidence of an in vivo clastogenic potential for this component and this strongly indicates it is not genotoxic/mutagenic.

PAVE BOND® PS Asphalt Additive Page 5 MSDS Reference No. 5324 02/15/91

Morton International Industrial Chemicals and Additives 513-733-2100

For additional information contact: Health, Safety & Environmental Department, (513) 733-2100.

"To the best of our knowledge the information contained herein is correct. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO THE INFORMATION CONTAINED HEREIN OR THE CHEMICAL TO WHICH THE INFORMATION REFERS."

## IN CASE OF EMERGENCY CONTACT:

ASIA MORTON INTERNATIONAL RM 2501 DOMINION CENTRE 37-59A QUEEN'S ROAD EAST WANCHAI, HONG KONG

TEL: 852-529-5029 FAX: 852-865-3892 TELEX: 65596 MANDR-HX

EUROPE MORTON INTERNATIONAL FAR EAST REGIONAL OFFICE CHAUSSEE DE'LA HULPE, 130 PREMIER K1 BLDG BOITE 5

TEL: 32-2-660-2909 FAX: 32-2-660-4702

JAPAN MORTON INTERNATIONAL 5 FLOOR 1 B 1050 BRUSSELS, BELGIUM KANDA MIKURA-CHO CHIYODA-KU, TOKYO 101 TEL: 81-03-254-1241 FAX: 81-33-254-1974 TELEX: 0222-3141MTLVDJ





## PRODUCT DATA

## AD-here®HP Plus

AD-here®HP Plus is a high performance 100% active polyamine anti-stripping agent which effectively increases the adhesion of the asphalt cement to the aggregate. Ad-here®HP Plus will also reduce the amount and rate of stripping caused by the action of water on bituminous pavements.

The use of 0.25 - 0.50% AD-here®HP Plus (by weight of asphalt) substantially increases tensile strength ratios when compared to untreated mixes. Additionally, AD-here®HP Plus is a heat stable product which can be mixed with asphalt cements and held at elevated temperatures for extended periods of time without loss of performance.

## Typical Properties

Appearance	Brown viscous liquid
Heat Stability	Meets state specifications
Pour Point, °F	65
Viscosity, 77°F	350 cps
Viscosity, 100°F	185 cps
Pounds/Gallon, 77°F	$8.00 \pm 0.1$
Flash Point (p.m.c.c.)°F	>200

AD-here  $^{\oplus}$ HP Plus is available in bulk quantities 500-5,500 gallon and in 55 gallon drums (420# net). AD-here  $^{\oplus}$ HP Plus is manufactured in Winter Haven, Florida and is also available at our terminals in LaPlace, Louisiana and Washington, North Carolina.

H238

## ARR-MAZ PRODUCTS

621 Snively Avenue Winter Haven, FL 33880 (813) 293-7884 FAX 813-293-5976